1116-46-355   **Muhammad Arshad Zia*** (`marshad_zia@yahoo.com`), Department of Mathematics and Statistics, International Islamic University, Islamabad, 44000, Pakistan. *Fixed point theorems for single and multi-valued dominating mappings in dualistic partial metric space.*

Matthews [1] established the relationship between partial metric and quasi metric. Later on, Oltra and Valero [2] established the relationship between dualistic partial metric and quasi metric. In this paper, we establish an order relation on quasi dualistic partial metric spaces. Later on, using this order relation, we prove fixed point theorems for single and multi-valued dominating mappings in dualistic partial metric space. Instead of monotone mappings, the notion of dominating mappings in Finance, Trade, Energy and Industry is also been applied to approximate solutions of nonlinear functional equations. We have used weaker conditions and weaker restrictions on the set of codomain to obtain fixed points. Several examples are given to make the paper readable for a larger audience. Moreover these examples show the superiority of our results over existing results. Our work improves/generalizes various well known primary and conventional results.

[1] S. G. Matthews, Partial Metric Topology, in proceedings of the 11th Summer Conference on General Topology and Applications, Vol. 728, pp. 183-197, The New York Academy of Sciences, August, 1995.

[2] S. Oltra, O. Valero, Banach's fixed point theorem for partial metric spaces, Rend. Ist. Mat. Univ. Trieste 36 (2004), 17-26. (Received August 27, 2015)